180215
180216

SA

Progress Energy

June 5, 2006

Mr. Charles L. A. Terreni
Chief Clerk/Administrator
The Public Service Commission of South Carolina
P. O. Drawer 11649
Columbia, South Carolina 29211

RE: Docket No. 2005-387-E

Dear Mr. Terreni:

Enclosed for filing are the original and one copy of joint Comments by Carolina Power & Light Company d/b/a Progress Energy Carolinas, Inc.; Duke Power Company LLC d/b/a Duke Energy Carolinas LLC; South Carolina Office of Regulatory Staff; and South Carolina Electric & Gas Company in the above-referenced docket.

THIS DOCUMENT IS AN EXACT DUPLICATE, WITH THE EXCEPTION OF THE FORM OF THE SIGNATURE, OF THE E-FILED COPY SUBMITTED TO THE COMMISSION IN ACCORDANCE WITH ITS ELECTRONIC FILING INSTRUCTIONS.

Very truly yours,

Len S. Anthony
Deputy General Counsel – Regulatory Affairs

LSA:gac

Enclosure

cc: Parties of Record

234905

Progress Energy Service Company, LLC
P.O. Box 1551
Raleigh, NC 27602

BEFORE
THE PUBLIC SERVICE COMMISSION OF
SOUTH CAROLINA
DOCKET NO. 2005-387-E

IN RE:	Petition of the Office of Regulatory Staff to Establish Dockets to Consider Implementing the Requirements of Section 1254 (Interconnection) of the Energy Policy Act of 2005	))))))))))))	COMMENTS OF CAROLINA POWER & LIGHT COMPANY d/b/a PROGRESS ENERGY CAROLINAS, INC.; DUKE POWER COMPANY LLC d/b/a DUKE ENERGY CAROLINAS LLC; SOUTH CAROLINA OFFICE OF REGULATORY STAFF; AND SOUTH CAROLINA ELECTRIC & GAS COMPANY; AND PETITION FOR APPROVAL OF "MODEL" SMALL GENERATION INTERCONNECTION STANDARDS AND ASSOCIATED APPLICATION TO INTERCONNECT AND INTERCONNECTION CONTRACT FORMS

Pursuant to the Public Service Commission of South Carolina's ("the Commission") Order No. 2006-18 dated January 19, 2006 in the above referenced docket, which order established a proceeding and requested comments based on a petition of the Office of Regulatory Staff to establish a docket to consider implementing the requirements of Section 1254 (Interconnection) of the Energy Policy Act of 2005, Carolina Power & Light Company d/b/a Progress Energy Carolinas, Inc. ("PEC"); Duke Power Company LLC d/b/a Duke Energy Carolinas LLC ("Duke Energy Carolinas"); and South Carolina Electric & Gas Company ("SCE&G") (collectively referred to as "the Utilities"); and South Carolina Office of Regulatory Staff ("ORS") hereby jointly file for approval a proposed model small generation interconnection standard. Subsequent to Commission approval, each utility will file separately a utility-specific set of documents incorporating the respective company's name. The following documents, collectively

referred to as the "Model Interconnection Standard," are attached hereto respectively as Exhibits Nos. 1, 2, and 3:

1) Standard for Interconnecting Small Generation 100kW or less with Electric Power Systems (EPS) ("Interconnection Standard");
2) Application to Interconnect Small Generation 100 kW or less (SC) ("Interconnection Application"); and
3) Interconnection Agreement for Small Generation 100 kW or Less ("Interconnection Agreement")

Representatives of PEC, Duke Energy Carolinas, SCE&G, and the ORS have collaborated on this Model Interconnection Standard and related criteria applicable to providing small customer-owned generators in South Carolina who desire to interconnect and operate their generators in parallel with PEC's, Duke Energy Carolinas', or SCE&G's distribution system, with uniform, simplified, standard interconnection criteria and procedures for making interconnections. The Interconnection Standard, Interconnection Application, and Interconnection Agreement address the requirements set forth in Section 1254 of the Energy Policy Act of 2005 and are based on Standard 1547 for Interconnecting Distributed Resources with Electric Power Systems developed by the Institute of Electrical and Electronics Engineers (IEEE). These documents were developed collaboratively in North Carolina in 2004 by PEC, Duke Energy Carolinas, Dominion North Carolina Power, the North Carolina Sustainable Energy Association, and the North Carolina Solar Center. The Model Interconnection Standard was filed jointly by the above utilities and was approved by the North Carolina Utilities

Commission on July 6, 2005 (in Docket No. E-100, Sub 101), and is presently in use in North Carolina. The documents attached hereto are identical to the North Carolina documents except for references to the specific state. Commission approval of these model interconnection criteria would thus result in a unified, consistent, standardized set of interconnection criteria for safety and reliability that would be used throughout the two Carolinas. While this is of primary interest to PEC and Duke Energy Carolinas, which serve customers in both states, SCE&G and ORS also support the adoption of these standardized criteria for the same reasons.

The Utilities and ORS believe the Model Interconnection Standard is the appropriate means to address interconnection of most small generation (100 kW or less) with the electric distribution systems in South Carolina which are under the jurisdiction of the Commission. The proposed Model Interconnection Standard would apply to parallel interconnection of single phase small generation systems rated at 20 kW or less for residential customers and 100 kW or less for nonresidential customers. The Interconnection Standard would not apply to momentary parallel systems used for the exclusive purpose of closed transition of loads, generators connected to electrical utility network systems, or generators connected to electrical utility transmission systems. Also, generators failing to meet the requirements of the Model Interconnection Standard may still be considered for interconnection after more detailed review specific to the proposed application and generator.

The Model Interconnection Standard being proposed by the Utilities and ORS will not apply to the interconnection of generators intending to sell all or any portion of their generation to any entity other than the utility to which it is directly connected. If at any point in the future a Customer wishes to sell its generation output to a third party, the

interconnection standards promulgated by the Federal Energy Regulatory Commission ("FERC") would apply. These documents do not address the contract for purchasing power produced by these generators.

The Interconnection Application is the application form through which a customer gives notice to the electrical utility of the intent to install and operate an interconnected generating facility pursuant to the Interconnection Standard and requests permission to interconnect. A completed application form along with the receipt of the application fee from a customer would start the formalized interconnection process.

The utilities under the jurisdiction of the Commission are required to provide customers with a safe, reliable source of electricity. To accomplish this responsibility, the utility systems must be designed with properly sized protective devices and equipment. Whenever a customer generator is added to the system it may require the installation or upgrading of equipment beyond existing plans and/or planned utility upgrades, not only at the premises where the generator is installed, but also at other locations on the utility's system in order to maintain a safe and reliable utility system. It is these costs caused by the installation of a customer generator that should be borne by the generator owner and not shifted to other customers. Other customers should not bear these additional costs solely for the benefit of a customer who elects to install his own generator. Thus the proposed application fees for Interconnection for Small Generation (which are identical to those approved in North Carolina by the North Carolina Utilities Commission) are reasonable and appropriate.

The electrical utility will complete the impact screen process within 30 days of the receipt of a completed application and fee by the customer absent extenuating circumstances.

Within ten days of the acceptance of the application and successful completion of the impact screens specified in the Interconnection Standard, an Interconnection Agreement would be sent to the customer for execution. The Interconnection Agreement is a separate agreement from any electric service agreement or cogeneration or small power producer agreement since interconnection can involve situations where: 1) the customer desires to operate only in parallel with the electrical utility with no excess sales to the utility; 2) operate in parallel with both purchase and sale of excess generation to the utility; or 3) sell the entire output of the generation to the utility without any purchase requirements at that point of interconnection.

The purpose of the Interconnection Agreement is to establish the terms and conditions of the interconnection of the small generator to the utility's distribution system. The purpose of the one-page Application is to collect the basic data required by the Utilities to review the proposed interconnection. The specific information applicable to an individual customer-generator is not known by the utility until after the Application is submitted. The data included in the Application is used to evaluate the technical feasibility of the interconnection and to develop the Interconnection Agreement. Assuming the requested interconnection meets the interconnection standards, the utility and the generator owner will then execute the Interconnection Agreement. The separate one-page Application is a reasonable means to seek basic information on the customer's generator and is a separate document from the interconnection agreement.

The Model Interconnection Standard as filed herewith represents the consensus of the Utilities and the ORS.

The Commission's Notice of Filing (January 24, 2006) established a deadline of February 24, 2006, by which any person who wishes to participate in this matter as a

party of record with the right of cross-examination needed to file a Petition to Intervene. PEC, Duke Energy Carolinas, and SCE&G were the only parties who filed to intervene. Persons who wished to testify and present evidence at any public hearing on this matter, or who wished to be notified of any such hearing, but did not wish to present testimony or be a party of record were directed to so notify the Docketing Department of the Commission by February 24, 2006. The Commission received no such notification from any party by, or subsequent to, that deadline. In view of this and the consensus among the parties of record, the Utilities and ORS perceive no need for any public hearing on this matter.[1]

The Utilities and ORS request that the Commission approve the Model Interconnection Standard as herewith filed by the Utilities, including the Application to Interconnect and Interconnection Agreement forms.

The Utilities have authorized the undersigned attorney to file these Reply Comments on their behalf.

Respectfully submitted this the 5th day of June 2006.

Len S. Anthony
Deputy General Counsel, Regulatory Affairs
Progress Energy Carolinas, Inc.
P.O. Box 1551
Raleigh, NC 27602

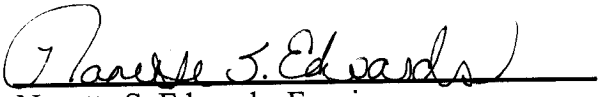
Lawrence B. Somers
Assistant General Counsel
Duke Energy Corporation
P.O. Box 1006
Charlotte, NC 28201-1066

[1] The comments of Plug Power, Inc., dated May 19, 2006, were filed with the Commission on or about May 22, 2006. Plug Power, Inc. has neither intervened nor requested a hearing in this matter.

Austin, Lewis & Rogers, P.A.
508 Hampton Street
Columbia, South Carolina 29201
Counsel for Duke Power Company LLC
d/b/a Duke Energy Carolinas, LLC

Patricia Banks Morrison, Esquire
South Carolina Electric & Gas Company
1426 Main Street, MC 130
Columbia, South Carolina 29201

REPRESENTING THE S.C. OFFICE OF
REGULATORY STAFF



Nanette S. Edwards, Esquire
Shannon Bowyer Hudson, Esquire
S.C. Office of Regulatory Staff
1441 Main Street, Suite 300
Columbia, South Carolina 29201

BEFORE
THE PUBLIC SERVICE COMMISSION OF
SOUTH CAROLINA
DOCKET NO. 2005-387-E

IN RE:	Petition of the Office of Regulatory Staff to Establish Dockets to Consider Implementing the Requirements of Section 1254 (Interconnection) of the Energy Policy Act of 2005	**CERTIFICATE OF SERVICE**

I, Len S. Anthony, hereby certify that PEC's comments in the above-referenced docket have been placed in the U. S. Mail on this date, to the parties of record at the addresses shown below, with sufficient postage attached:

Nanette Edwards, Esquire
Office of Regulatory staff
1441 Main Street, Suite 300
Columbia, South Carolina 29201

Shannon Bowyer Hudson, Esquire
Office of Regulatory Staff
1441 Main Street, Suite 300
Columbia, South Carolina 29201

Lawrence B. Somers, Assistant General Counsel
Duke Energy Corporation
Post Office Box 1006, EC03T
Charlotte, North Carolina 28201-1066

Richard L. Whitt, Esquire
Austin, Lewis & Rogers, P.A.
Post Office Box 11716
Columbia, South Carolina 29211

Catherine D. Taylor, Esquire
South Carolina Electric & Gas Company
1426 Main Street, MC 130
Columbia, South Carolina 29201
(803) 217-7880

Patricia Banks Morrison, Esquire
South Carolina Electric & Gas Company
1426 Main Street, MC 130
Columbia, South Carolina 29201
(803) 217-7880

This the 5th day of June, 2006.

Len S. Anthony
Deputy General Counsel-Regulatory Affairs

EXHIBIT 1

SOUTH CAROLINA

Standard for Interconnecting Small Generation 100 kW or Less with Electric Power Systems (EPS)
(Interconnection Standard)

1. Overview:

This Standard contains the requirements, in addition to applicable tariffs and service regulations, for parallel interconnection of non-utility owned single phase small generation systems which are rated at 20 kW or less for residential customers and 100 kW or less for nonresidential customers and are consistent with Section 6 below. "Small" generator procedures for application for and acceptance of an interconnection request for such generators are included in Section 8.

Small Generators meeting the criteria and conditions included and/or referenced herein will normally be approved for interconnection except in extenuating site specific circumstances.

1.1 Scope:

This Standard applies only to "Small" generators installed at existing radial fed Area EPS (Area Electric Power System) distribution customers, with a determination of minimal impact.

1.2 Purpose:

This document was developed to provide a uniform simplified standard for interconnecting certain small generators of 100 kW or less capacity in South Carolina.

1.3 Limitations:

This Standard does not cover momentary parallel systems used for the exclusive purpose of closed transition of loads. The Standard does not cover small generators connecting to area EPS network systems. The Standard does not cover customers served directly from area EPS transmission facilities. The interconnection of generators is subject to applicable PSCSC (Public Service Commission of South Carolina) approved tariffs and service regulations in addition to compliance with this Standard.

Although outside the scope of this document, generators failing to meet the requirements of this Standard may still be considered for

interconnection after more detailed review specific to the proposed application and generator.

1.4 **Conflicts:**

In case of conflict between any provision of a tariff and of this Standard, the provisions of the tariff shall prevail.

2. References:

IEEE 929 – (Recommended Practice for Utility Interface of Photovoltaic (PV) Systems, latest published edition)

IEEE 1547 – (Standard for Interconnecting Distributed Resources with Electric Power Systems, latest published edition).

IEEE P1547.1 – (Draft: Standard Conformance Test Procedures for Interconnecting Distributed Energy Resources with Electric Power Systems)

IEEE P1547.2 – (Draft: Application Guide for IEEE Standard 1547, Interconnecting
Distributed Resources with Electric Power Systems)

IEEE P1547.3 – (Draft: Guide For Monitoring, Information Exchange, and Control of
Distributed Resources Interconnected with Electric Power Systems)

UL 1741 – (Inverters, Converts and Controllers for use in Independent Power Systems, latest published edition).

NFPA 70 – (National Electrical Code, latest published edition).

PSCSC Tariffs – (Public Service Commission of South Carolina) approved tariffs including, but not limited to, rate schedules, riders, service regulations and terms and conditions.

3. Definitions:

3.1 **Area EPS**: Area Electric Power System: The electric facilities of the local utility.

3.2 **Company:** The electric utility owning and operating the Area EPS.

3.3 **Closed Transition of Loads:** A make-before-break load transfer scheme, in which the Generator is operated in parallel with the Area EPS for a brief period of time, to ensure that the load is maintained while in transition from the Company to the Generator or vice versa. This transition scheme includes fast transfer systems, generally less

than 100 msec, and soft load systems where the parallel condition is maintained for a number of seconds.

3.4 **Customer:** The electric Customer of record for the location where the generation will be interconnected.

3.5 **Generator:** The distributed "generation system" and equipment to be interconnected to the Area EPS.

3.6 **Isolation Device:** A manual load-break disconnect switch or safety switch with a clear visible indication of switch position between the Area EPS and the Generator. The switch must have pad lock provisions for locking in the open position. The switch must be visible to, and accessible to Company personnel. The switch must be in close proximity, and visible from, the Customer's point of electrical interconnection with the Company's Area EPS. The switch must be labeled "Generator Disconnect Switch". The switch may isolate the Generator system and its associated load from the area EPS or disconnect only the Generator from the Area EPS.

The Company shall have access to the Isolation Device at all times.

3.7 **Momentary Parallel Systems:** A Generator utilizing only a Closed Transition mode of operation.

3.8 **Point of Common Coupling:** "Point of common coupling" means the point in the interconnection of a customer-generator facility with an electric delivery system and shall have the same meaning as in IEEE Standard 1547.

4. General Requirements:

4.1 **Service Regulations and Tariff/Rate Schedule:** This Standard for Interconnecting Small Generation 100 kW or Less with Electric Power Systems is governed by the Company's Service Regulations and Tariff/Rate Schedules as filed and approved by the regulatory authorities having jurisdiction over the Company's electric utility operations.

4.2 **Acceptance for Interconnection:** Each application and Generator is evaluated individually and accepted or denied for interconnection with the Company's Area EPS. Any Company evaluation is from the perspective of the impact of the interconnection on the Company and its system. The Customer is solely responsible for ensuring the safe installation and operation of the Generator. Generators shall not be interconnected until the requirements and process described in this Standard have been satisfied.

The acceptance for interconnection is for the original applicant only. Subsequent owners or occupants of a site with an interconnected generator must submit a new Application to the Company. The existing customer assumes the responsibility of ensuring a new customer is aware the new customer must re-apply and obtain the Company's written acceptance or the equipment must be removed or disabled to prevent future interconnection and/or operation. The application fee for the re-applying new customer is waived and the technical requirements may be grandfathered for subsequent owners as long as the Generator's maximum output capacity has not been changed and/or the interconnection protection system has not been modified.

4.3 **Waiving Requirements:** All requirements of this Standard must be met although the Company may, in its sole discretion, waive all or some of the requirements of this Standard. Waivers must be issued in writing.

4.4 **Interconnect Cost:** The Customer will bear all the cost of interconnection on the Customer's side of the point of interconnection as well as necessary changes or upgrades to the Area EPS to meet all technical and protection requirements to address any power quality, reliability or safety issues caused by the Generator operation or connection to the Area EPS.

4.5 **Isolating or Disconnecting the Generator:** The Company may isolate the Customer's premises and/or Generator from Company's Area EPS when necessary in order to construct, install, repair, replace, remove, investigate, or inspect any of Company's equipment or part of Company's system; or if Company determines that isolation of the Customer's premises and/or Generator from Company's Area EPS is necessary because of emergencies, forced outages, force majeure or compliance with prudent electrical practices. Whenever feasible, the Company shall give the Customer reasonable notice of the isolation of the Customer's premises and/or Generator from Company's Area EPS. Notwithstanding any other provision of this Standard, if at any time the Company determines that either the Generator may endanger the Company's personnel or other persons or property, or the continued operation of the Customer's Generator may endanger the integrity or safety of the Company's electric system, the Company shall have the right to isolate the Customer's premises and/or Generator from the Company's Area EPS.

The Company may disconnect the Area EPS electric service to any Generator determined to be malfunctioning, or not in compliance with this Standard. The Customer must provide proof of compliance with this Standard before the electrical service will be reconnected.

4.6 **Limitation of Liability:** Each party's liability to the other party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission hereunder, shall be limited to the amount of direct damage actually incurred. In no event shall either party be liable to the other party for any indirect, special, incidental, consequential, or punitive damages of any kind.

4.7 **Indemnification:** The parties shall at all times indemnify, defend and save the other party harmless from any and all damages, losses, claims, including claims and actions relating to injury or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney's fees, and all other obligations by or to third parties, arising out of or resulting from the other party's action or inaction of its obligations hereunder on behalf of the indemnifying party, except in cases of gross negligence or intentional wrongdoing by the indemnified party.

4.8 **Access to and Operation of the Generator:** The Customer shall limit access to and operation of the Generator to qualified persons and assumes the responsibility of maintaining control of the operation of the Generator.

4.9 **Insurance:** The Customer shall obtain and retain, for as long as its Generator is interconnected with the Company's system, liability insurance which protects the Customer from claims for bodily injury and/or property damage. For a non-residential Customer the minimum coverage shall be comprehensive general liability insurance with coverage at least $300,000 per occurrence and for a residential Customer the minimum coverage shall be at a standard homeowner's insurance policy with liability coverage in the amount of at least $100,000 per occurrence. This insurance shall be primary for all purposes. The Customer shall provide certificates evidencing this coverage as required by the Company. The Company reserves the right to refuse to establish, or continue the interconnection of the Customer's Generator with the Company's system, if such insurance is not in effect.

4.10 **Generator Alterations:** Changes to the Generator output capacity and/or modification to the protection system required to meet this Standard are prohibited without submitting a new "Application to Interconnect Small Generator" and obtaining a new acceptance from Company.

4.11 **Discontinuing Operation:** The Customer shall notify the Company prior to permanently discontinuing operation of the Generator interconnected with the Company.

4.12 **Interconnection Application Fee:** The nonrefundable interconnection application fee covers only the application process for interconnection of Generators and shall be one of the following:

4.12.1. For residential service customers: $100.00

4.12.2. For nonresidential service customers: $250.00

5. Generator, Inverter and Protective Equipment Technical Requirements:

5.1 **General:** The Company may elect to visit the site and verify compliance with any requirement of these Standards.

The Generator must be single phase only. Three phase Generators are not covered by this Standard although multiple single phase Generators meeting all requirements of this Standard may be allowed at the sole discretion of the Company.

5.2 **Required Standards:** The Customer must certify the following requirements:

5.2.1. The installation of the Generator and all equipment in the system must comply with the latest published edition of IEEE 929 and IEEE 1547 as applicable.

5.2.2. Future IEEE Standards and/or Recommended Practices: IEEE P1547.1, P1547.2 and P1547.3 are still proposed draft documents and still in working groups at the time of writing this Standard. Generators interconnected after these standards are published may be required to comply with these IEEE documents.

5.2.3. The Customer's inverter or interconnection protection system must be tested and listed for compliance with the latest published edition of Underwriters Laboratories, Inc. (UL) 1741.

5.2.4. The Generator must pass the anti-islanding test in UL 1741.

5.2.5. The Customer's inverter or interconnection protection system must be manufactured after November 7, 2000.

5.2.6. Any protection settings affecting anti-islanding performance must not be adjusted after passing anti-islanding tests.

5.3 **Additional PV (Photovoltaic) Systems requirements:** The Customer must certify that the Generator meets the following requirements:

5.3.1. The installation of the Generator and all equipment in the system comply with the latest published edition of IEEE 929.

5.3.2. The Generator is a non-islanding type as defined in IEEE 929.

5.4 **Electrical Contractors and NEC Code Inspections:** All installed wiring, protection devices, cabinets and connectors, etc. must comply with the latest published edition of the NEC as used by the local jurisdiction and all applicable local codes. An approved electrical inspection by the authority having jurisdiction is required.

5.5 **Isolation Device:** An Isolation device as defined in Section 3.6 is required. The Company in its sole discretion determines if the device is suitable.

6. Screens and Requirements for determination of minimal impact:

6.1 **Area EPS Circuit Level Saturation:** The cumulative total of the maximum rated output of all interconnected Generation shall not exceed the following limits, per circuit, for the given Area EPS distribution circuit phase to phase voltage rating:

Circuits 20 kV or greater: 100 KW
Circuits 10 kV but less than 20 kV: 60 kW
Circuits less than 10 kV: 30 kW

6.2 **Limitations of Area EPS Facilities:**

6.2.1. **General**: The Generator shall meet each of the following requirements to qualify for interconnection and each requirement must be maintained after commissioning.

6.2.2. Area EPS Capacity Limitation: The maximum rated output of the Generator or total aggregate of multiple Generators shall not exceed the capacity or ratings of the Area EPS facilities as determined by the Company.

6.2.3. Secondary, Service and Service Entrance Limitation: The Generator capacity shall be less than the capacity of the Area EPS owned secondary, service and service entrance cable connected to the Point of Common Coupling. The Company will make this determination after reviewing the Area EPS installed facilities.

6.2.4. Transformer Loading Limitation: The Generator shall not have the ability to overload the Area EPS transformer or any EPS transformer winding beyond manufacturer or nameplate ratings.

6.2.5. Integration with Area EPS Grounding: The grounding scheme of the Generator shall comply with IEEE 1547.

6.2.6. Balance Limitation: The generator shall not create a voltage imbalance of more than 3% if the Area EPS transformer, with the secondary connected to the Point of Common Coupling, is a three-phase transformer.

6.2.7. Any changes or upgrades to Area EPS to accommodate the Generator will be pursuant to Section 4.4.2 above.

7. Commissioning, Maintenance and Inspections:

7.1 **General:** The Customer or Customer's authorized representative shall perform commissioning, and maintenance as outlined in this section for all Generator equipment. All testing shall be documented and the Company shall be granted the right to audit the documentation. The Company reserves the right to require and witness testing of the Customer's Generator.

The Customer's Generator is subject to inspection by a Company representative at a mutually agreeable time, as the Company deems necessary.

The Company's inspection and/or witnessing the testing of the Customer's equipment shall not be construed as the Company warranting or implying that the Customer's equipment is safe or reliable. The Company shall not be liable to the Customer or others as a result of inspection and witnessing of tests of the Customer's Generator or equipment.

7.2 **Commissioning:** The manufacturer's recommended and required commissioning, installation and functional tests shall be completed, with successful results, in accordance with the manufacturer's published recommendations. Commissioning tests in IEEE 1547 shall also be completed with successful results unless these IEEE 1547 tests are duplications of the manufacturer tests. After obtaining the final electrical inspection, the Customer shall invite the Company to the commissioning test and perform the test at a mutually agreed date but not later than 25 days after the invitation.

7.3 **Maintenance and Testing:** Maintenance shall be performed in accordance with the manufacturer's published maintenance procedures. Periodic testing shall be completed with successful results in accordance with the manufacturer's published recommendations for periodic testing at, or before, the recommended testing intervals. If the manufacturer does not publish recommendations for periodic testing, suitable testing shall be

performed that assures proper protection for the Area EPS, at an interval not to exceed two years. All test results shall be documented and available to the Company for review upon request.

7.4 **Failure of Test:** If a Generator fails any test, it shall be disabled and the Isolation Device must be opened until the equipment is repaired.

8. Procedures

8.1 **Interconnection Request:** The Customer submits to the Company an "Application to Interconnect Small Generation" accompanied with the appropriate Interconnection Application Fee to a designated Company contact or department.

8.2 **Queue Position:** The Company considers the application based on the date a completed application is received by the Company in reference to priority when evaluating the Area EPS screen limits.

8.3 **Impact Screens:** The Company accepts or rejects the application for interconnection after reviewing the application and performing the screens outlined in this Standard. If the application is rejected, the Customer may request the Company to reconsider interconnection outside the scope of this Standard. If the application is accepted the process will continue.

It may be necessary to visit the site to gather information on the Area EPS facilities or the Customer's Generator equipment.

The Company will complete the Impact Screen process within 30 days (absent extenuating circumstances) of receipt of a complete "Application to Interconnect Small Generation." Extenuating circumstances include, but are no limited to, Force Majeure, adverse weather conditions, and system emergencies.

8.4 **Agreement for Interconnection:** After all previous items in the process are complete, the Company will provide an agreement to the Customer within 10 days of the completion of the Impact Screens as stated in 8.3. Once the Customer returns the executed Agreement to the Company, the Company will execute the Agreement and return a copy to the Customer. Customer shall not interconnect the generator to Company's Area EPS Facilities unless an Agreement between Customer and Company has been executed by both parties.

8.5 **Installation and Inspections:** The Customer installs the Generator and the Customer is responsible for obtaining an approved electrical inspection from the local authority having jurisdiction for the Generator installation. The Customer shall request the inspector to forward a

copy of the approved inspection to the Company contact processing the Generator interconnect request.

8.6 **Area EPS Facilities:** At the Customer's expense the Company installs or alters the Area EPS facilities as necessary to accommodate the interconnection.

8.7 **Commissioning Test:** The Customer performs the required commissioning test and forwards a confirmation letter to the Company unless the Company witnesses the test and it is successful. The Customer shall invite the Company to the commissioning test and perform the test at a mutually agreed date and time if the Company elects to attend.

8.8 **Completion of Application/Expiration Process:** The application shall be valid for no less than one year once the Impact Screen process is completed.

PSCSC Docket No.
Effective: _____

EXHIBIT 2

APPLICATION TO INTERCONNECT SMALL GENERATION 100 kW OR LESS (SC)

Customer herby gives notice of intent to operate an interconnected generating facility pursuant to the "Standard for Interconnecting Small Generation 100 kW or less with Electric Power Systems (Interconnection Standard)". Permission to interconnect is not granted until an Interconnection Agreement has been completed between the Company and the Customer.

Section 1. Contact Information

Customer (Name) : _____ E-Mail Address: _____

US Mail Address: _____ City: _____ State: _____ Zip Code: _____

Daytime Phone Number: _____ Alternate Phone / Cell Number _____

Installer (Name): _____ Date: _____ Phone Number: _____

US Mail Address: _____ City: _____ State: _____ Zip Code: _____

Company: _____ Electrical / Contractor license number(s) _____

Electrical Inspector (Name): _____ County: _____ Phone: _____

Section 2. Generator and Facility Information

Facility Location (if different from above): _____

Electric Utility Name: _____ Account Number: _____

Customer Type: Residential ☐, Commercial ☐, Other _____

Is there an existing interconnected generator at this facility? Yes ☐, No ☐

Total proposed aggregate generation output rating at this site (kW): _____

Generator / Inverter	# 1	# 2	# 3
Energy Source / Type			
Manufacturer Name			
Model Name & # (Specific)			
Nameplate Rating (kW AC)			
Nominal Voltage (Volts AC)			

(Note: If more than 3 Generators / Inverters will be used, complete a separate attachment with the information above)

If a customer owned transformer will be used, specify Mfg, type and ratings: _____
(Attach Transformer Manufacturer Specifications)

Section 3. Installation Information

Proposed Installation Date: _____ Proposed Interconnection Date: _____

Section 4. Certification

The interconnection protection system is tested and listed for compliance with the latest published edition of Underwriters Laboratories (UL) 1741 including the anti-islanding test. The system (is / will) be installed in compliance with IEEE 929 and or IEEE 1547 as applicable, all manufacturer specifications, the National Electric Code and all local codes. No protection settings affecting anti-islanding have been or will be adjusted or modified.

I hereby certify that, to the best of my knowledge, all of the information provided in this Application is true and correct and the generator will comply with the Interconnection Standard stated above.

Signature of Customer _____ Date: _____

Note: Attach application fee and 1-line (electrical drawing of installation) with application.

Submit Application to: (Utility Representative) _____

Company (Electric Utility Use only): Note: Only signifies receipt of this form.

This application received by "Official Name of Company" Corporation

Signed (Utility Representative): _____ Date: _____

PSCSC Docket No. _____; Effective: _____

EXHIBIT 3

INTERCONNECTION AGREEMENT FOR SMALL GENERATION 100 kW OR LESS

This INTERCONNECTION AGREEMENT FOR SMALL GENERATION 100 Kw OR LESS, (the "Agreement"), is entered into as of _____, 20__, (the "Effective Date"), by and between _____ , hereinafter called "Customer", and "Company's official name", hereinafter called "Company". Customer and Company are hereinafter collectively referred to as the "Parties" or "Party". In consideration of the mutual covenants set forth herein, the Parties agree as follows:

1. **SCOPE OF AGREEMENT:**
   (a) This Agreement relates solely to the conditions under which Company and Customer agree that Customer's generation system and equipment, hereinafter the "Generator", and located at or near *(address)* _____ may be interconnected to and operated in parallel with Company's electric system. This Agreement does not authorize Customer to export power or constitute an agreement to purchase or wheel Customer's power. Other services that Customer may require from Company shall be covered under separate agreements.
   (b) Company will supply the electrical requirements of Customer that are not supplied by Customer's Generator. Such electric service shall be supplied to Customer under Company's rates schedules, riders, and services regulations applicable to Customer's class of service.
2. **INTERCONNECTION:**
   (a) Company hereby authorizes Customer to interconnect and commence operation under the terms of this Agreement on or after *(date)* _____ subject to Customer having received Company's written acceptance specified in 2. (f) below.
   (b) Customer's Generator must be manufactured, installed and operated in accordance with governmental and industry standards and must conform with Company's "Standard for Interconnecting Small Generation 100 kW or less with Electric Power Systems (EPS)", hereinafter referred to as "Interconnection Standard", a copy being attached hereto and made a part of this Agreement.
   (c) Customer's Generator shall be installed as described in Customer's Application To Interconnect Small Generation 100 KW or Less, a copy attached hereto and made a part hereof.
   (d) The nameplate output of the Generator is ____ kW in the form of _____ phase, _____ wires, alternating current of 60 hertz frequency and at _____ volts.
   (e) The point of interconnection between Customer and Company hereunder will be _____.
   (f) Customer shall not interconnect Customer's Generator with Company's electric system nor commence parallel operation of Customer's Generator until both Parties have accepted this Agreement and the requirements for interconnection stated in the Interconnection Standard have been met. Company shall have the right and opportunity to have representatives present at the initial testing of Customer's protective apparatus. Customer shall notify Company _____ business days prior to the initial testing. In the event Customer has interconnected Customer's Generator without Company's acceptance of this Agreement or the Generator has not met the requirements of the Interconnection Standard, Company shall have the right to immediately isolate Customer's premises and/or Generator from Company's system until Company's acceptance is granted and the requirements of the Interconnection Standard have been met.
   (g) Customer shall not make any changes to the Generator output capacity and/or modification to the protection system required to meet the Interconnection Standard without first submitting a new Application To Interconnect Small Generation 100 KW or Less and obtaining a new acceptance from Company before making the changes to the Generator.

(h) **Isolation Device:** Customer shall install a manual load-break disconnect switch with a clear visible indication of switch position between Company's electric system and Customer's Generator. The Isolation Device shall be installed as specified in the Interconnection Standard.

(i) **Warning Label**: Customer will install a permanent warning label in a conspicuous place in close proximity to the electric meter or on the meter base to notify Company personnel that there is a generator installed on the load side of the meter. The warning label shall not be placed in a location that would interfere with the ability of Company personnel to read the electric meter. Customer shall also place a warning label on the Isolation Device. Company will provide the warning labels to Customer. The warning labels must be in place before the Generator can be interconnected with Company's system.

3. **INTERCONNECTION COST**: The cost to Customer for all Company owned and maintained facilities constructed and/or installed by Company to accommodate the interconnection and safe operation of Customer's Generator in parallel with Company's electric system shall be determined in accordance with Company's applicable Service Regulations and/or Terms and Conditions For the Purchase of Electric Power. The cost to Customer, termination provisions, and other applicable terms and conditions related to facilities installed by Company are as stated in Exhibit ___, hereto attached and made a part hereof.

4. **RIGHT OF ACCESS AND EQUIPMENT INSTALLATION:**

(a) **Access To Premises**: The duly authorized agents of Company shall have the right of ingress and egress to the premises of Customer at all reasonable hours, over the same general route as Customer utilizes, for the purpose of reading meters, inspecting Company's wiring and apparatus, changing, exchanging, or repairing its property on the premises of Customer and to remove such property at the time of or at any time after the suspension of interconnection of the Generator or termination of this Agreement. Company shall have access to Customer's Isolation Device at all times.

(b) Company's obligation to provide the interconnection as covered in this Agreement on the agreed upon Effective Date is contingent upon Company receiving the rights-of-way and receiving the necessary equipment in sufficient time to install it on or before that date.

5. **MAINTENANCE OF INTERCONNECTION FACILITIES**: Customer shall maintain Customer's Generator and all related Customer-owned protective equipment and facilities in a safe and prudent manner, conforming to all applicable laws and regulations. Customer shall reimburse Company for any and all losses, damages, claims, penalties or liability Company incurs as a result of Customer's failure to maintain the Generator, equipment, and facilities in a safe and prudent manner or failure to obtain and/or maintain any governmental authorizations or permits required for construction and operation of Customer's facility.

6. **DISCONNECTION OF GENERATOR**: Company may isolate Customer's premises and/or Generator from Company's system when necessary in order to construct, install, repair, replace, remove, investigate, or inspect any of Company's equipment or part of Company's system; or if Company determines that isolation of Customer's premises and/or Generator from Company's system is necessary because of emergencies, forced outages, Force Majeure or compliance with prudent electrical practices. Whenever feasible, Company shall give Customer reasonable notice of the possible isolation of Customer's premises and/or Generator from Company's system. Notwithstanding any other provision of this Agreement, if at any time Company determines that either the Generator may endanger Company's personnel or other persons or property, or the continued operation of Customer's Generator may endanger the integrity or safety of Company's electric system, Company shall have the right to isolate Customer's premises and/or Generator from Company's system. **It is agreed that Company shall have no liability for any loss of sales or other damages, including all punitive and consequential damages for the loss of business opportunity, profits, or other losses, regardless of whether such damages were foreseeable, for the isolation of Customer's premises and/or Generator from Company's system per this Agreement**. Company shall expend reasonable effort to reconnect the Customer's premises and/or Generator with the Company's system in a timely manner.

7. **PERMITS AND APPROVALS:** Customer shall obtain all environmental and other permits required by governmental authorities prior to construction, installation, and interconnection of the Generator. Customer shall also maintain these applicable permits and compliance with these permits during the term of this Agreement.

8. **INDEMNITY AND LIABILITY:**

   (a) **Limitation of Liability:** Each party's liability to the other party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission hereunder, shall be limited to the amount of direct damage actually incurred. In no event shall either party be liable to the other party for any indirect, special, incidental, consequential, or punitive damages of any kind.

   (b) **Indemnification:** The parties shall at all times indemnify, defend and save the other party harmless from any and all damages, losses, claims, including claims and actions relating to injury or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney's fees, and all other obligations by or to third parties, arising out of or resulting from the other party's action or inaction of its obligations hereunder on behalf of the indemnifying party, except in cases of gross negligence or intentional wrongdoing by the indemnified party.

   (c) The provisions of Section 8.(a) shall not be construed to relieve any insurer of its obligations to pay any claims in accordance with the provision of any valid insurance policy.

   (d) If Customer at any time fails to comply with the insurance provisions of this Agreement, Customer shall, at its own cost, defend, save harmless and indemnify Company, its directors, officers, employees, agents, assignees, and successors in interest from and against any and all loss, liability, damage, claim, cost, charge, demand, or expense of any kind or nature (including attorney's fees and other costs of litigation) resulting from the death or injury to any person or damage to any property, including the personnel and property of Company, its contractors, its customers, and/or the public to the extent that Company would have been protected had Customer complied with all such insurance provisions. The inclusion of this Section 8.(d) is not intended to create any express or implied right in Customer to elect not to provide any such required insurance.

   (e) Customer shall be responsible for installing and maintaining devices adequate to protect against damages caused by irregularities or outages on Company's system, regardless of the cause or fault, including devices to protect against voltage fluctuations and single phasing.

9. **INSURANCE:**

   (a) Customer shall obtain and retain, for as long as its Generator is interconnected with the Company's system, liability insurance which protects Customer from claims for bodily injury and/or property damage. For a non-residential Customer the minimum coverage shall be comprehensive general liability insurance with coverage at least $300,000 per occurrence and for a residential Customer the minimum coverage shall be at a standard homeowner's insurance policy with liability coverage in the amount of at least $100,000 per occurrence. Prior to interconnection of the Generator with Company's system, Customer shall furnish a properly executed certificate of insurance to Company clearly evidencing the required coverage and any exclusions applicable to such coverage. The certificate shall provide that the insurance coverage shall not be canceled or modified unless and until Company receives at least thirty (30) days prior written notice. Customer shall further replace such certificates for policies expiring during the period its Generator is interconnected with Company's system. Company has the right to refuse to establish or continue the interconnection of Customer's generation facility to Company's system if such insurance is not in effect.

   (b) Insurance on the premises where the Customer's Generator is located shall, by endorsement to the policy or policies, provide for thirty (30) days of written notice to Company prior to cancellation, termination, alteration, or material change of such insurance.

10. **FORCE MAJEURE:** For purposes of this Agreement, Force Majeure shall mean any act of God, labor disturbance, act of the public enemy, war, terrorism, insurrection, riot, fire, storm or flood, explosion, breakage or

accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other caused beyond a Party's control. A Force Majeure event does not include an act of negligence or intentional wrongdoing.

11. **NON-WARRANTY:** Company's approvals given pursuant to this Agreement or actions taken hereunder shall not be construed as any warranty or representation to Customer or any third party regarding the safety, durability, reliability, performance or fitness of Customer's generation and service facilities, its control or protective devices or the design, construction, installation or operation thereof.

12. **EFFECTIVE TERM AND TERMINATION RIGHTS**: This Agreement becomes effective when executed by both parties and shall continue in effect until terminated. The Agreement may be terminated in accordance with the following:

    (a) If Customer desires to terminate the Agreement, Company will agree to such termination if Company is satisfied that Customer no longer can operate Customer's Generator in parallel with Company's system at the premises and all bills for services previously rendered to Customer, plus any applicable termination charges as specified in Exhibit ____, have been paid. Company may waive the termination charges if Company has secured or expects to secure from a new occupant or operator of the premises an Agreement satisfactory to Company for the interconnection to Company for a term not less than the unexpired portion of Customer's Agreement.

    (b) Company, in addition to all other legal remedies, may either terminate the Agreement or suspend interconnection with Customer (l) for any default or breach of Agreement by Customer, (2) for failure to pay any applicable bills when due and payable, (3) for a condition on Customer's side of the point of interconnection actually known by Company to be, or which Company reasonably anticipates may be, dangerous to life or property, (4) if Customer either fails to energize the Generator within 12 months of the Effective Date of this Agreement or permanently abandons the Generator, or (5) by giving the Customer at least sixty days notice in the event that there is a material change in an applicable rule or statue concerning interconnection and parallel operation of the Generator, unless the Customer's installation is exempted from the change or the Customer complies with the change in a timely manner. No such termination or suspension, however, will be made by Company without written notice delivered to Customer, personally or by mail, stating what in particular in the Agreement has been violated, except that no notice needs to be given in instances set forth in 12.(b)(3) above.

    Failure to operate the Generator for any consecutive 12 month period after the Effective Date shall constitute permanent abandonment unless otherwise agreed to in writing between the Parties.

13. **GENERAL:**

    (a) This Agreement and the applicable Schedule, Riders, Interconnection Standard, Service Regulations, and Terms and Conditions For the Purchase of Electric Power hereto attached are subject to changes or substitutions, either in whole or in part, made from time to time by a legally effective filing of Company with, or by order of, the regulatory authority having jurisdiction, and each party to this Agreement reserves the right to seek changes or substitutions, in accordance with law, from such regulatory authority. Unless specified otherwise, any such changes or substitutions shall become effective immediately and shall nullify all prior provisions in conflict therewith.

    (b) **Headings:** The descriptive headings of the various sections of this Agreement have been inserted for convenience of reference only and are to be afforded no significance in the interpretation or construction of this Agreement.

14. **ENTIRE AGREEMENT**: This Agreement and the documents attached hereto constitute the entire Agreement between the Parties relating to the subject matter hereof, there being no other agreements or understandings, written or oral, other than those contained in this Agreement and the attachments hereto. This Agreement does not modify, change or impact any other agreement between the Parties relating to the supply of electric service, or the sale of, or purchase of, electric power.

15. **AMENDMENTS**: The Parties may amend this Agreement but such amendment may only be effective and enforceable if it is set forth in a written instrument signed by both Parties.
16. **ASSIGNMENT:** Customer shall not assign its rights nor delegate its duties under this Agreement without Company's written consent. Any assignment or delegation Customer makes without Company's written consent shall not be valid. Company shall not unreasonably withhold its consent to Customer's assignment of this Agreement. An assignee or new customer must submit a new Application To Interconnect Small Generation 100 KW or Less to Company and obtain Company's written approval before any assignment shall occur. Customer assumes the responsibility of ensuring a new customer or assignee is aware the new customer or assignee must re-apply and obtain Company's written acceptance or the equipment must be removed or disabled to prevent future interconnection and/or operation.
17. **THIRD PARTIES**: This Agreement is intended solely for the benefit of the parties hereto. Nothing in this Agreement shall be construed to create any duty to, or standard of care with reference to, or any liability to, any person not a party of this Agreement.
18. **GOVERNING LAW**: This Agreement shall be governed under laws of the State of South Carolina.
19. **SEVERABILITY**: If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction, such portion or provision shall be deemed separate and independent, and the remainder of this Agreement shall remain in full force and effect.
20. **WAIVER**: No delay or omission in the exercise of any right under this Agreement shall impair any such right or shall be taken, construed or considered as a waiver or relinquishment thereof, but any such right may be exercised from time to time and as often as may be deemed expedient. In the event that any agreement or covenant herein shall be breached and thereafter waived, such waiver shall be limited to the particular breach so waived and shall not be deemed to waiver any other breach hereunder.
21. **CUSTOMER CERTIFICATION**: By signing this Agreement below, Customer hereby certifies that, to the best of Customer's knowledge, all of the information provided in the Application To Interconnect Small Generation 100 kW or Less is true and correct, the Generator will comply with the Interconnection Standard, and that Customer has received and reviewed this Agreement.
22. **ACCEPTANCE AND SIGNATURES**: Upon the acceptance hereof by Company, evidenced by the signature of its authorized representative appearing below, this document shall be an Agreement for the interconnection of Customer's Generator to Company's system.

Witness as to Customer:

_____ _____

_____Customer

_____ By _____Title_____

_____

This _____day of _____20____

ACCEPTED: "Official Name of Company" Corporation

Address of Customer:

By _____ Name: _____

_____

Title _____ _____

_____

This _____ day of _____20_____ Address: _____

_____

EXHIBITS AND ATTACHMENTS

1. Application to Interconnect Small Generation 100 kW or Less (SC)
2. Interconnection Standards
3. Service Regulations or Terms and Conditions
4. Exhibit when interconnection cost are involved
5. Other exhibits when needed

"Official Name of Company" Corporation

Effective:_____
PSCSC Docket No._____